

REMARKS

Reconsideration and allowance are respectfully requested in view of the following remarks. Claims 1-9 and 14-31 are pending in the present application.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-3, 6, 7, 29 and 31 are rejected under 35 U.S.C. §103(a), on the basis of the Java Remote Method Invocation Specification published February 10, 1997 by Sun Microsystems (identified in the Office Action as "JDOM"), in view of the Jones et al. patent (U.S. 6,557,032, hereinafter "Jones") and the Dievendorff et al. patent (U.S. 6,425,017, hereinafter "Dievendorff"). The rejection is traversed as follows.

Claim 1 recites a method for managing information exchanges among communicating objects in an object-oriented client server system. The system includes first and second object-oriented virtual machines running on counterpart first and second computers in respective server and client roles, and a communication path connection between the computers. The server virtual machine has a run-time environment. The method comprises, among other steps:

generating a local object at the client machine based upon interface definition of a remote object resident at the server machine, said local object executable as a proxy to the remote object; said server machine residing in a smart device; and said client machine having access to the smart device via a smart device reader.

The Office Action acknowledges that JDOM does not disclose "said server machine residing in a smart device; and said client machine having access to the smart device via a smart device reader", and relies upon col. 3, lines 16-26 and lines

50-58 of the Jones patent as allegedly disclosing such features. Applicants respectfully disagree.

Jones discloses a distributed data processing system, such as a retail store customer transaction network. The particular problem addressed by the patent is the fact that different types of smart cards could be presented to a reader to carry out a transaction. (Col. 1, lines 36-43). To enable smart cards of different types to be handled, an object oriented processing environment is provided at each transaction terminal. Card handling objects that are appropriate to different respective cards are loaded into the reader to which the cards are presented. (Col. 3, lines 8-12).

Referring to Fig. 1 of the Jones patent, a distributed data processing system includes a terminal 1 for handling customer transactions in a retail environment enabling each transaction to be initiated by the insertion of a smart card 3 which is read and written via an interface 4 to provide and receive data relating to the transaction. Each transaction is controlled by a generic application processor 4 in the terminal 1 in which a Java language interpreter is established and various application objects associated with a transaction are instantiated. An application library 5 stores objects relating to the transactions in the terminal 1, and is connected to the processor 4. Also connected to the processor 4 is a user interface library 6, which stores objects to establish the proper interface between the input/output equipment 2 and the types of smart card 3 likely to be presented to the terminal 1.

In the Office Action, the Examiner refers to col. 3, lines 16-26 of Jones as disclosing servers that perform using smart cards. However, a server that **uses** a smart card to perform a function is not the same as a server that **resides** on a smart device, as recited in claim 1. The cited passage of the Jones patent refers to the

servers 9 and 10 that are illustrated in Figure 1. As can be seen, these servers are remote from the smart card 3 connected to the terminal 1. At column 3, lines 39-44, the patent states:

[A] situation could arise for example where a card is presented of a type not normally handled by the terminal but which is commonly used in an application elsewhere in the network. Terminal 1 then initiates a request for the appropriate object to be made accessible through server 9 or 10.

From the foregoing it is believed to be clear that the servers described at column 3, lines 16-26 are quite distinct from the smart card 3. As such, these servers can not be considered to correspond to, or otherwise suggest, the claimed "server machine **residing** in a smart device."

Dievendorff relates to an object runtime architecture that allows method invocations to be made on either a synchronous, real-time basis or a queued basis using the normal call semantics of an object model. The Dievendorff patent does not have any disclosure on information exchanges among communicating objects involving a smart device. Therefore, the Dievendorff patent does not remedy the deficiencies of the JDOM article and the Jones patent.

Consequently, any logical combination of the teachings of JDOM, Jones and Dievendorff does not suggest the subject matter of claim 1, and therefore claim 1 is patentable. Claims 2-3, 6, 7, 29 and 31 are patentable at least because of their dependencies or because they include distinguishing features similar to those of claim 1.

Claims 4, 5, 8, 9 and 30 are rejected under 35 U.S.C. §103(a), on the basis of JDOM and Jones, in view of alleged prior art (hereinafter, "APA"), and in further view of Dievendorff.

The APA does not disclose that a server machine, at which a remote object is located, resides in a smart device, as described in claim 1. Therefore, APA does not remedy the above-noted deficiencies of JDOM, Jones and Dievendorff. Accordingly, claims 4, 5, 8, 9 and 30 are patentable.

Claims 14, 16, 18, 19, 21, 23, 24, 26 and 28 are rejected under 35 U.S.C. §103(a), on the basis of Jones and APA, in further view of the DiGiorgio patent (U.S. 6,385,729, hereinafter "DiGiorgio").

Claim 14 recites that a smart device comprises an applet that is a remote object to an application on a client computer, and that is configured to invoke a method of the applet on the smart device in response to a local call on the device. The claim further recites that the smart device includes a run-time environment "configured to generate the local call on the smart device to invoke the method in response to the single command APDU **without the applet having been selected with another command APDU**" (emphasis added).

In rejecting claim 14, it is acknowledged in the Office Action that Jones and APA do not disclose generating a local call in response to a single command APDU without the applet having been selected with another command APDU. To this end, DiGiorgio is cited as an attempt to remedy the deficiencies of Jones and APA.

DiGiorgio discloses a conventional JAVA card that is able to communicate with a computer system by passing APDUs back and forth. DiGiorgio also discloses that applets are stored in a smart card. DiGiorgio, however, does not disclose the details of how a method of an applet stored in a smart card is invoked by APDUs.

It is known that, in order to invoke a method of an applet on a smart card, the applet must first be activated by a "Select" APDU. Once the applet has been

activated in this manner, command APDUs can be sent to it to invoke its methods.

See the present application at page 10, lines 11-18, for example.

DiGiorgio discloses that communications between a computer and a secure device take place by means of command and response APDUs that are passed back and forth. It also discloses the format of a command APDU. It does not, however, disclose that a single command APDU causes a run-time environment on a smart device to generate a local call on the smart device to invoke the method of an applet, without the applet having first been selected with another command APDU, as recited in claim 14.

Accordingly, any reasonable application of the teachings of DiGiorgio to the system of Jones would not result in the subject matter of claim 14. Claims 16, 18, 19, 21, 23, 24, 26 and 28 are patentable at least on the basis of distinctions similar to those for claim 14.

Claims 15, 17, 20, 22, 25 and 27 are rejected under 35 U.S.C. §103(a), on the basis of Jones, APA, DiGiorgio and JDOM.

Claims 15, 17, 20, 22, 25 and 27 are patentable at least because of their dependency from the claims discussed above.

CONCLUSION

From the foregoing, further and favorable action in the form of a Notice of Allowance is respectfully requested and such action is earnestly solicited.

In the event that there are any questions concerning this amendment, or the application in general, the Examiner is respectfully requested to telephone the undersigned so that prosecution of present application may be expedited.

Respectfully submitted,

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